2016 Alberta Spatial Price Survey

A Place-to-Place Price Comparison Survey

Introduction

During the spring of 2016, the Alberta Spatial Price Survey was conducted to measure the price differences among various major communities in the province. This is the first time that a spatial price survey has been conducted in Alberta since 2010. The 2016 survey was sponsored by the Government of Alberta ministries of Treasury Board and Finance (Office of Statistics and Information, or OSI), Economic Development and Trade, and Transportation, in collaboration with THECiS, a not-for-profit organization in Calgary. The survey methodology was developed jointly by OSI and Statistics Canada, and was conducted by Statistics Canada.

From food to gasoline to housing costs, Statistics Canada collected prices on a basket of goods and services regularly purchased by Alberta consumers in specific communities across the province. By keeping this basket as consistent as possible across the surveyed communities, Statistics Canada was able to develop a price index for the basket - as well as some of its components - so that price comparisons can easily be calculated for each location.

(Previous iterations of the Alberta Spatial Price Survey - called the Alberta Place-to-Place Price Comparison Survey prior to 2007 - were conducted in-house by the Government of Alberta. Historical reports and data developed from these surveys are available for free on the OSI website.)

The following sections discuss the survey design further, as well as provide a brief summary of the main results of the 2016 survey. Tables containing all the index values by category and community can be found in the appendix.

Survey Background

The 2016 Alberta Spatial Price Survey focuses on price differences across various locations at a specific point in time, whereas the Consumer Price Index (CPI) program is entirely concerned with price differences over time at a specific location. In addition, the basket of goods and services surveyed for the Alberta Spatial Price Survey is less comprehensive than the one in the CPI program due to challenges in finding various specific items in some communities. Thus, any analysis that combines CPI data with spatial price data is not recommended.

A total of 35 Alberta communities were surveyed for the 2016 edition. These communities, along with their respective population estimates, are listed in Table 1. Since the goal of the survey was to measure relative price levels (as opposed to the actual price level) among various locations, a price index was developed while using Edmonton as the base location. This means that, with Edmonton benchmarked at 100.0, communities that have an index value above (below) 100.0 experienced higher (lower) prices than Edmonton for a particular basket of commodities. Even though Edmonton is the reference location, adjusting the index values such that another community is the benchmark can easily be done.

As in the CPI program, the items in the basket of goods and services for the Alberta Spatial Price Survey are not weighted equally but are instead weighted according to relative importance. For example, if the average Alberta consumer spends more money on gasoline than on butter, then gasoline will be weighted higher than butter in the overall basket. Thus, for the "All-items" basket, differences in gasoline prices will have a larger effect on the All-items price index than differences in butter prices.

Data Sources

For many basket items, price data were collected in selected Alberta communities by Statistics Canada during the spring of 2016. While some of the data were collected through visits to retail outlets at each community, price information was also sourced from Statistics Canada internal databases that are regularly employed for the CPI program.

Price data for some critical items were acquired through other independent surveys. For rental costs, information was sourced from the Apartment Vacancy & Rental Cost Survey (conducted annually by the Government of Alberta ministry of Seniors), as well as Canada Mortgage and Housing Corporation's (CMHC) Rental Market Report and Housing Market Outlook. For owned accommodations,

housing prices came from real estate house listings that were sold shortly prior to the Spatial Price Survey reference period. Several housing details such as age of dwelling, square footage of home, lot size, number of bedrooms and bathrooms, as well as other characteristics, were taken into consideration in determining comparability when pricing a similar home in Edmonton.

More details on the survey's design and background, including the conceptual and methodological approaches that have been applied to produce the indices, can found in Statistics Canada's report, which will be available for free on the OSI website (forthcoming).

Types of Indices

Three aggregate and seventeen sub-aggregate indices were developed by Statistics Canada. The aggregated indices are:

1. An all-items index;
2. A food index; and
3. A non-food index.

The seventeen category-specific indices are allocated to the two major groupings as follows:

All Food Indices:

- Dairy Products
- Fats and Oils
- Cereals and Breads
- Processed Fruits and Vegetables
- Fresh Fruit and Vegetables
- Meat, Fish, Poultry and Substitutes
- Frozen and Packaged Food
- Restaurant Meals

All Non-Food Indices:

- Personal Care Products
- Household Supplies
- Household Services
- Household Equipment
- Recreation and Leisure
- Transportation
- Clothing
- Shelter
- Utilities

Table 1: Population Estimates
Estimates as of July 1, 2015

Community	Population	Community	Population
Athabasca	3,041	Jasper	4,893
Barrhead	4,566	Lethbridge	92,628
Bonnyville	6,915	Lloydminster (AB part)	19,536
Brooks	15,343	Medicine Hat	64,236
Calgary	1,293,023	Olds	9,730
Camrose	18,754	Peace River	7,693
Canmore	13,807	Pincher Creek	3,936
Cold Lake	15,314	Ponoka	7,715
Drayton Valley	8,240	Red Deer	103,232
Drumheller	8,706	Rocky Mountain House	7,309
Edmonton	950,421	Slave Lake	7,317
Fort McMurray*	77,804	St. Paul	6,004
Grande Cache	4,552	Stettler	5,916
Grande Prairie	62,824	Taber	7,559
High Level	3,891	Vegreville	6,148
High Prairie	2,827	Wainwright	6,077
High River	15,364	Whitecourt	9,643
Hinton	10,173		
		Total Population Coverage of Spatial Price Survey	2,885,137

* Population estimate for the Regional Municipality of Wood Buffalo.
Source: Statistics Canada, Demography Division
Notes: Estimates based on 2011 Standard Geographical Classification.
Estimates based on 2011 Census counts adjusted for net census undercount.

Special Note on Fort McMurray

Most of the data collection for Fort McMurray took place before the devastating wildfire that impacted northern Alberta in May 2016. As a result, the price indices developed for Fort McMurray may not accurately describe the price levels currently being experienced. Thus, any analysis involving price indices for Fort McMurray should be conducted with considerable caution, and will likely require other, more recent data sources to verify the accuracy of the analysis.

Analysis

According to the 2016 Alberta Spatial Price Survey, Canmore had the highest overall price level among the communities surveyed, followed by Fort McMurray and Jasper. In Canmore, overall prices were nearly 20 per cent higher than in Edmonton on average, primarily driven by substantially higher shelter costs (e.g., housing/rental costs, property taxes), transportation costs (e.g., gasoline and vehicle purchase/leasing) and, to a lesser extent, higher food prices. Canmore posted a higher index value than Edmonton in each of the 8 food categories.

Similar to Canmore, Fort McMurray experienced significantly higher shelter costs and food costs, but transportation costs were only mildly higher than in Edmonton. Overall, Fort McMurray's price level was close to 15 per cent higher than Edmonton, although the price environment may have changed significantly as a result of the Wood Buffalo wildfires, which occurred after the survey was conducted.

Unlike Canmore and Fort McMurray, Jasper posted shelter costs that were actually lower on average than Edmonton's, but experienced considerably higher costs in several other categories. In particular, Jasper posted the highest food index by a notable margin among the communities surveyed. Jasper also posted one of the highest values for the transportation index. Overall, Jasper's price level was 7% higher than Edmonton's.

In contrast, Wainwright posted the lowest overall price index value at 90.7, meaning the community's price level overall was 9% lower than Edmonton's, despite having food prices that were 7% higher on average. In fact, Wainwright also posted the highest index value for the "Restaurant Meals" category among the communities surveyed. These findings reflect the fact that while food is one of the more frequent purchases the average Albertan will make, food items overall have a considerably smaller weight in the "All-items" index formulation than for non-food items. In particular, shelter and transportation have relatively large weights, for which Wainwright posted low-end index values among the communities surveyed.

Moreover, all but six of the communities surveyed outside of Edmonton posted a lower overall price index than the provincial capital, largely due to significantly lower shelter costs and, to a lesser extent, lower costs for transportation and various household services. However, food costs were higher than Edmonton in most of the communities surveyed, with the exception of Brooks, Olds and Drayton Valley.

For example, Barrhead, with the lowest shelter index value by a considerable margin among the communities surveyed, posted the fourth-lowest overall price index value despite having a higher index value than Edmonton in several sub-aggregate categories. Similar results can also be found for Medicine Hat and Brooks.

A map showing each community with its respective overall price index can be found in Figure 1.

Comparison with 2010 results

Overall, the findings in the 2016 survey are similar to those in the 2010 iteration of the survey. Communities that posted the highest (lowest) index values for the various categories in 2010 are mostly the same communities that experienced relatively high (low) price levels in 2016. Since 2010, the overall price levels in Lloydminster and Peace River appeared to have increased appreciably relative to the other communities, whereas Barrhead and High Prairie saw their relative price levels fall. One notable difference between the two iterations of the survey is that there was a much wider range in the index for utilities costs in 2016 than in 2010. In the latest version of the survey, the utilities price index ranged from 75.9 for Medicine Hat to 148.4 for Olds. However, given the significant change in methodology - including changes in data sources - and basket composition between the 2010 and 2016 iterations, extreme caution should be exercised when comparing results between these two surveys.

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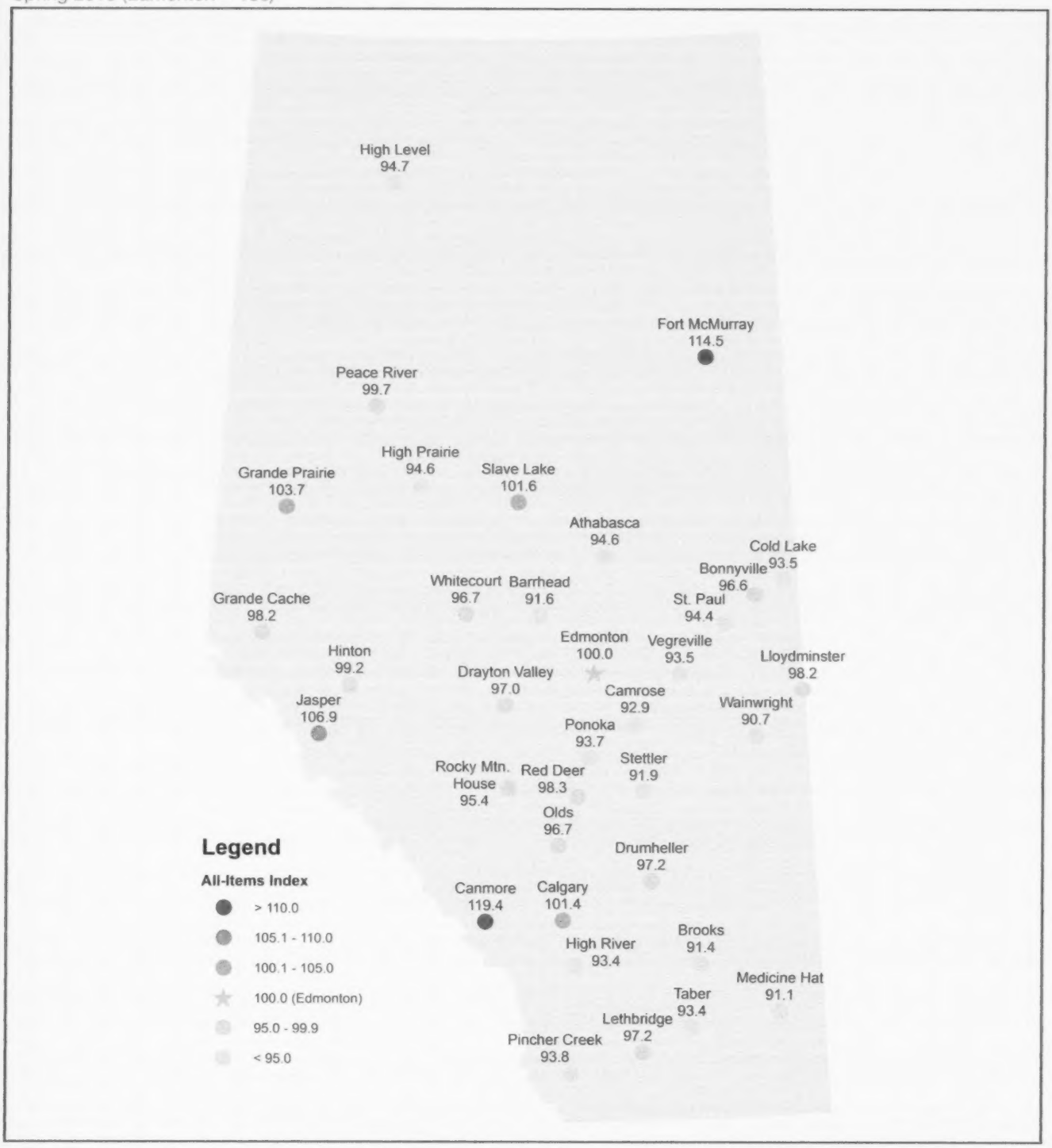
Figure 1: Spatial Price Index (All-Items) By Location
Spring 2016 (Edmonton = 100)



Source: Statistics Canada, Consumer Prices Division; map by the Office of Statistics and Information, Alberta Treasury Board and Finance

Appendix

Table 2: Alberta Spatial Price Index - Major Categories
Spring 2016 (Edmonton = 100)

Community	All-items	Food	Non-food
Athabasca	94.6	107.8	92.7
Barrhead	91.6	107.5	89.3
Bonnyville	96.6	105.6	95.3
Brooks	91.4	98.5	90.5
Calgary	101.4	102.5	101.3
Camrose	92.9	101.1	91.8
Canmore	119.4	111.2	120.5
Cold Lake	93.5	101.0	92.5
Drayton Valley	97.0	99.8	96.6
Drumheller	97.2	101.4	96.6
Fort McMurray	114.5	112.3	114.8
Grande Cache	98.2	108.2	96.7
Grande Prairie	103.7	103.6	103.7
High Level	94.7	110.9	92.4
High Prairie	94.6	108.5	92.7
High River	93.4	100.8	92.4
Hinton	99.2	108.8	97.8
Jasper	106.9	117.3	105.5
Lethbridge	97.2	102.0	96.5
Lloydminster	98.2	104.5	97.3
Medicine Hat	91.1	105.5	89.0
Olds	96.7	95.8	96.8
Peace River	99.7	101.5	99.4
Pincher Creek	93.8	101.6	92.7
Ponoka	93.7	103.8	92.3
Red Deer	98.3	102.4	97.7
Rocky Mountain House	95.4	102.0	94.4
Slave Lake	101.6	100.8	101.8
St. Paul	94.4	103.2	93.2
Stettler	91.9	101.0	90.6
Taber	93.4	105.7	91.6
Vegreville	93.5	102.0	92.3
Wainwright	90.7	106.5	88.4
Whitecourt	96.7	106.4	95.4

Source: Statistics Canada, Consumer Prices Division

Table 3: Alberta Spatial Price Index - Food Categories
Spring 2016 (Edmonton = 100)

Community	Dairy	Fats & Oils	Cereals & Bread	Processed Fruits & Vegetables	Fresh Fruits & Vegetables	Meat Fish Poultry & other	Frozen & Packaged Foods	Restaurant Meals
Athabasca	105.0	109.2	120.5	117.5	113.4	104.3	103.5	106.8
Barrhead	108.1	109.9	123.2	123.2	118.8	113.8	117.9	85.6
Bonnyville	105.7	106.1	108.4	109.9	99.5	106.5	112.8	101.7
Brooks	106.4	101.9	105.4	101.7	93.3	99.3	96.2	96.4
Calgary	100.8	96.4	103.1	110.3	99.6	103.5	103.5	101.6
Camrose	101.8	105.1	109.1	106.6	97.2	104.0	104.5	94.8
Canmore	107.2	118.2	121.9	124.9	106.8	112.6	114.6	105.6
Cold Lake	101.9	97.0	102.7	100.7	99.4	103.8	105.2	96.4
Drayton Valley	95.6	101.4	106.4	106.7	99.0	102.9	100.4	95.2
Drumheller	109.8	113.8	107.6	107.4	116.0	102.7	104.1	88.6
Fort McMurray	102.5	111.6	123.8	111.7	101.5	113.7	113.7	113.0
Grande Cache	117.5	118.1	114.5	121.9	115.8	114.8	119.2	87.7
Grande Prairie	101.2	100.1	108.7	104.3	106.4	103.2	101.9	103.0
High Level	111.1	125.0	123.8	124.3	128.5	106.7	114.2	100.1
High Prairie	112.0	109.9	126.3	125.1	127.6	108.6	118.6	88.0
High River	105.3	106.4	109.4	110.3	99.8	100.8	103.9	94.4
Hinton	109.3	94.3	109.9	114.0	107.8	110.4	106.4	108.8
Jasper	120.3	121.4	134.6	133.9	128.5	114.9	126.1	102.5
Lethbridge	102.5	105.5	106.4	107.9	97.6	103.6	101.7	100.2
Lloydminster	103.4	108.4	108.1	113.0	98.6	108.1	109.8	98.8
Medicine Hat	103.3	108.3	108.8	114.0	103.2	104.3	105.0	106.0
Olds	96.9	99.2	106.6	99.8	97.6	98.5	97.7	87.8
Peace River	107.3	96.5	111.4	111.0	109.6	103.5	105.2	89.7
Pincher Creek	102.1	102.9	109.9	99.5	113.5	100.8	97.6	97.8
Ponoka	108.6	105.0	106.6	109.4	108.0	101.3	100.1	103.9
Red Deer	104.8	106.5	108.2	110.4	97.8	102.9	103.7	99.6
Rocky Mountain House	113.6	108.2	110.5	113.7	101.4	102.0	107.0	92.6
Slave Lake	102.1	90.5	106.7	98.9	96.9	103.0	96.7	101.1
St. Paul	107.9	109.2	109.9	117.0	102.2	104.5	109.9	93.7
Stettler	104.9	97.7	105.6	107.9	83.3	104.5	100.3	101.9
Taber	116.6	114.7	120.3	124.2	108.0	106.5	111.9	91.5
Vegreville	107.7	105.6	101.6	98.4	99.7	102.3	99.4	103.0
Wainwright	106.9	106.0	105.6	103.5	100.7	102.7	99.3	116.3
Whitecourt	108.5	107.1	110.0	112.0	93.1	108.1	109.1	106.1

Source: Statistics Canada, Consumer Prices Division

Table 4: Alberta Spatial Price Index - Non-Food Categories (excluding shelter and utilities)
Spring 2016 (Edmonton = 100)

Community	Personal Care Products	Household Supplies	Household Services	Household Equipment	Recreation & Leisure	Transportation	Clothing
Athabasca	114.9	103.6	85.3	96.1	100.6	96.1	95.5
Barrhead	117.7	115.1	96.7	97.8	100.3	101.0	99.8
Bonnyville	113.6	101.1	87.9	98.4	103.9	100.3	96.4
Brooks	103.3	107.0	86.7	94.2	98.5	100.4	93.7
Calgary	104.9	103.0	103.1	101.6	98.2	99.6	97.8
Camrose	104.9	101.4	87.8	94.8	100.3	98.7	93.2
Canmore	111.0	108.8	104.2	97.5	102.8	122.0	110.0
Cold Lake	105.1	100.2	85.4	96.1	96.6	93.6	97.5
Drayton Valley	106.8	99.2	97.0	94.5	95.7	103.6	98.0
Drumheller	109.7	101.4	97.8	94.3	94.1	98.0	93.9
Fort McMurray	107.3	104.1	110.4	101.8	101.3	104.2	95.7
Grande Cache	119.9	115.0	87.6	107.8	105.2	104.6	95.2
Grande Prairie	103.3	102.8	91.3	92.8	103.5	109.7	92.4
High Level	111.2	111.4	89.9	96.0	101.2	104.5	92.6
High Prairie	106.7	113.9	88.0	103.2	103.4	100.4	92.4
High River	108.0	103.3	98.1	103.5	95.4	93.1	96.8
Hinton	111.3	126.8	101.4	91.9	97.4	100.6	97.2
Jasper	120.6	119.0	100.0	105.7	110.4	109.4	102.3
Lethbridge	104.7	107.3	99.9	95.6	99.0	97.2	94.0
Lloydminster	107.8	106.0	99.5	98.5	93.7	94.4	100.9
Medicine Hat	110.2	104.5	97.5	99.9	90.4	103.9	94.9
Olds	108.7	105.2	101.4	94.1	97.4	106.6	94.4
Peace River	103.9	103.6	93.4	98.3	100.0	96.1	98.0
Pincher Creek	108.1	96.0	97.2	93.8	105.0	110.1	94.7
Ponoka	115.7	101.7	96.9	107.5	95.0	97.7	95.1
Red Deer	101.8	97.8	97.9	95.6	96.3	97.5	95.2
Rocky Mountain House	110.9	110.2	104.0	102.8	96.2	101.8	92.0
Slave Lake	102.2	101.3	90.9	95.6	105.4	102.4	100.5
St. Paul	107.9	111.1	87.2	99.7	104.8	99.2	96.1
Stettler	104.6	101.6	95.6	94.3	94.4	99.3	94.5
Taber	109.1	115.0	94.1	100.0	98.6	97.7	95.1
Vegreville	100.9	101.0	95.9	92.9	94.0	97.7	92.9
Wainwright	100.5	104.5	88.0	95.5	98.4	96.9	94.9
Whitecourt	104.6	117.5	91.0	93.5	96.9	96.7	97.3

Source: Statistics Canada, Consumer Prices Division

Table 5: Alberta Spatial Price Index - Shelter and Utilities
Spring 2016 (Edmonton = 100)

Community	Shelter	Utilities
Athabasca	80.8	111.6
Barrhead	60.7	104.4
Bonnyville	80.8	124.5
Brooks	74.0	100.5
Calgary	101.8	109.0
Camrose	76.6	112.3
Canmore	140.6	109.0
Cold Lake	81.8	124.4
Drayton Valley	85.6	113.1
Drumheller	84.2	145.8
Fort McMurray	136.5	121.9
Grande Cache	78.2	126.2
Grande Prairie	99.0	140.8
High Level	67.4	129.6
High Prairie	70.9	131.5
High River	80.6	106.0
Hinton	92.8	92.6
Jasper	98.1	114.1
Lethbridge	91.5	103.1
Lloydminster	88.3	140.5
Medicine Hat	68.4	75.9
Olds	74.2	148.4
Peace River	95.5	138.8
Pincher Creek	65.3	108.7
Ponoka	74.4	111.6
Red Deer	95.6	111.3
Rocky Mountain House	78.1	104.7
Slave Lake	96.9	138.8
St. Paul	73.0	131.9
Stettler	65.6	139.2
Taber	72.6	113.2
Vegreville	75.2	133.9
Wainwright	72.0	91.2
Whitecourt	91.8	98.0

Source: Statistics Canada, Consumer Prices Division